AI Technical Standards Need a Bigger Push Than Executive Order

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Dentons' Peter Stockburger says safe use of AI in the future needs purposeful development of social and technical standards worldwide, and that President Joe Biden's executive order is just a start.

President Joe Biden's Oct. 30 executive order on artificial intelligence follows several efforts by the White House over the past year to grapple with AI's tremendous promise and peril. While the order aims to help the federal government roll out safe and responsible use of the technology, this is only a first step toward building global technical standards that support that goal.

The executive order advocates for a "responsible" approach to AI, directing various federal agencies to develop guidelines, initiatives, and guardrails and solicit stakeholder input. It also advocates "responsible global technical standards" for AI development, calling on the Department of Commerce through its National Institute for Standards and Technology to coordinate with key allies, partners, and standards development organizations to drive and implement "AI-related consensus standards, cooperation and coordination, and information sharing."

This ask for global technical standards to address AI's challenges isn't new. In 2019, NIST called on the federal government to adopt technical standards when developing and deploying AI. In May, the G7 nations issued a joint communique for "development and adoption of international technical standards in standards development organizations through multi-stakeholder processes" to address the global AI challenge.

On Oct. 30, a subsequent G7 statement requested international cooperation toward a global policy framework that addresses AI governance. And multiple nations signed the Bletchley Declaration on Nov. 2, calling for international collaboration in developing common principles and codes of conduct.

The focus on technical standards to address the global AI challenge is a logical next step. They permeate every aspect of our lives, from phone calls to powering devices. They help ensure seamless communication, connection, and collaboration, and are a cornerstone of progress and innovation in modern society. Such standards allowed electricity to become interoperable and safe throughout the world.

When electricity was discovered, live current transmitted through bare copper wires with minimal insulation and no grounding. The results were devastating and sometimes fatal, creating fears around development and deployment. The risk lay not in electricity itself, however, but in the absence of a standard. Fears abated when measures such as grounding standards were adopted.

The Institute of Electrical and Electronics Engineers created a grounding framework for our modern technological society—standardizing the electrical grid, and establishing uniform specifications for electrical machines. The result was compatibility, interoperability, and interchangeability among various devices and systems.

As AI endures its own age of skepticism and critique, new technical standards that will help "ground" it also may be necessary.

But are technical standards enough? In 2022, NIST warned against an over-reliance on technical solutions to address the complex challenges of AI governance, including those relating to social, political, economic, and ethical concerns. Thus, as future AI systems become self-governing, self-improving, and self-adapting, technical controls alone may be insufficient to harness their potential while mitigating risk. NIST therefore called for development of a socio-technical approach that bridges the gap between technical and social standards and expectations.

The theory says socio-technical standards would allow AI to develop in line with locally driven values, interests, ethics, and culture, therefore encoding societal principles and ethics directly into AI tools. This holistic approach is critical to develop AI governance, because its standards are designed to meet social, legal, and ethical requirements by enabling society to encode expectations, laws, and values directly into the network upon which AI will operate.

In 2020, for example, the Spatial Web Foundation, a non-profit standards setting organization, partnered with the Institute of Electrical and Electronics Engineers to lead development of socio-technical standards and protocols to govern transmission of information through the spatial web—the interaction between AI in the physical and digital world.

These standards, anticipated to be released in 2024, introduce socio-technical concepts such as hyperspatial modeling language and the hyperspatial transfer protocol. Whether these standards will be adopted as a protocol for addressing AI's challenges remains to be seen.

The White House's call tocreate a standards-based approach to AI governance is a step in the right direction. Whether those standards should be technical or socio-technical in nature will be a topic for global discussion.

We know that as AI continues to endure its own age of skepticism and critique, like electricity, new "grounding" standards may ensure we can all use AI in a safe, secure, and trustworthy manner.

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